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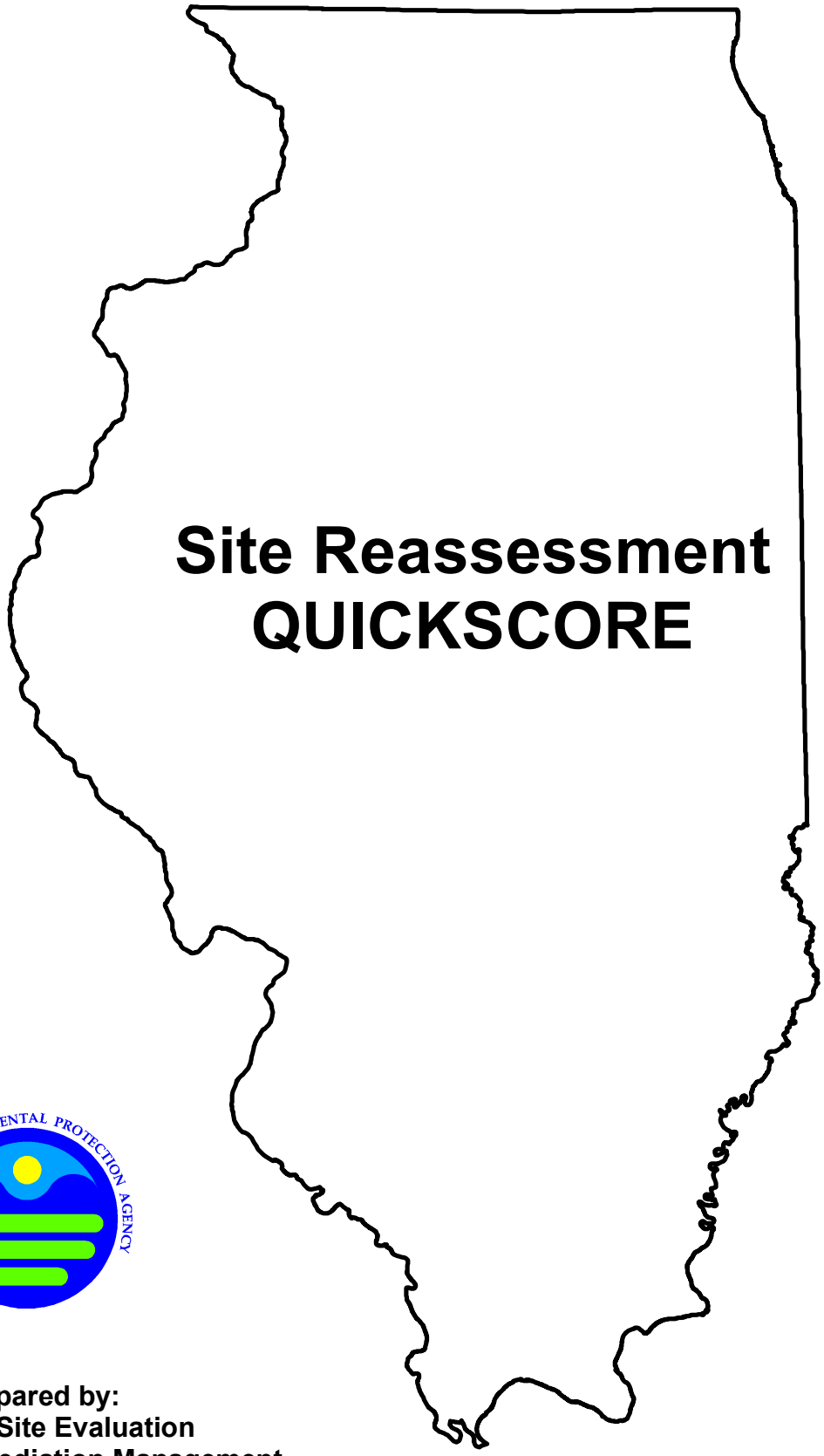
LPC# 1110900002 McHenry County
South California Chemical
ILD 059 483 081
SF/HRS
CONFIDENTIAL



Site Reassessment
QUICKSCORE

Prepared by:
Office of Site Evaluation
Division of Remediation Management
Bureau of Land

Site Summary and Recommendation

On January 7th, 2015, the Illinois Environmental Protection Agency's (Illinois EPA) Office of Site Evaluation was tasked by the United States Environmental Protection Agency (U.S. EPA) Region V to conduct a Site Reassessment (SR) at the South California Chemical property (Southern California Chemical), McHenry County, Illinois.

South California Chemical is an inactive facility located at 17415 Jefferson Street, in Union, Illinois. Southern California Chemical Company leased the property in 1970 and then purchased the property in 1982. Prior to Southern California Chemical Company leasing the South California Chemical property, the site was the location of several different types of plants. These plants included a grain plant, a milk plant, and possibly a shingle manufacturing plant according to some of the records. The original manufacturing facility consisted of four buildings of approximately 24,000 square feet.

It is believed that the Southern California Chemical Company contributed to most of the contamination found at the South California Site. Activities conducted by Southern California Chemical Company involved the manufacture of various inorganic chemical including copper sulfate pentahydrate, copper oxide, proprietary and patented continuous ammonia etchants as well as the recycling and refining of spent circuit board etchant which was resold to the printed circuit board operators after purification. Southern California Chemical Company mainly manufactured inorganic chemical products for the aerospace and electronics, but also sold by-product of their copper oxide residuals to the agricultural and wood preserving industries.

The South California Chemical site originally consisted of three parcels of property. Parcels one and two (#17-04-400-17 and #17-04-400-18) consisted of the manufacturing plant. Parcels one and two contain approximately 2.5 acres of land and are currently enrolled in the Site Remediation Program (SRP) at the Illinois EPA. These two parcels are currently owned by Phibro-Tech, Inc. of Ft. Lee, New Jersey. They were purchased by Phibro-Tech in 1984. Phibro-tech operated these two parcels as an inorganic chemical manufacturing plant until 1988 when all of the production ceased, and the process equipment was subsequently dismantled. The third parcel (#17-04-400-024) consists of a wooded dump area approximately 4.5 acres in area

and is adjacent to the east side of parcels one and two. According to the tax records of McHenry County, the third parcel is privately owned.

South California Chemical was initially placed on the Superfund Enterprise Management System (SEMS) data base on March 14th, 1989. A Preliminary Assessment (PA) was completed on February 28th, 1990. An Integrated Site Assessment (SI) was completed on April 3rd, 1995. The Site Team Evaluation Prioritization (STEP) was completed on September 16, 1999. At the completion of the first two steps in the CERCLA process (PA and SI), South California Chemical was determined to pose enough of an environmental threat to move to the next step in the CERCLA process and receive more thorough investigations. After the completion of the STEP report, it was determined that South California Chemical had enough contaminated soil to either enter Illinois EPA's Site Remediation Program or to go through additional CERCLA investigations.

Currently, the Phibro-Tech portion (Parcels 1 and 2) of the South California Chemical site is regulated under RCRA as a Small Quantity Generator and is in the process of undergoing RCRA closure. It is currently enrolled in the SRP. The property and surrounding have undergone numerous environmental investigations. Phibro-Tech is working with Illinois EPA to monitor and remediate Parcels 1 and 2, so it is recommended that that portion of the South California Chemical property continue through that process. However, the closure process does not involve the dump area to the east (Parcel 3). The last CERCLA investigation which was completed in 1999 indicated the presence of soil and groundwater contamination on Parcel 3. Two Removal Management Levels (RMLs) were exceeded in the soil for Parcel 3. benzo(a)pyrene was detected at 32 mg/kg (RML = 29 mg/kg) in sample X102 (soil sample collected at the northwest portion of the dump area) and lead was detected at 1240 mg/kg (RML = 800 mg/kg) in sample X103 (soil sample collected at the southwest portion of the dump area). Furthermore, there isn't any record that Parcel 3, which was the dump area for the Southern California Chemical Company manufacturing plant, has undergone any remediation activities or investigations since 1999. For that reason, it is recommended that Parcel 3 of the South California Chemical site be separated from the Parcels 1 and 2 and a Site Reassessment with

sampling be performed on Parcel 3. The owner of Parcel 3 is currently (b) (6) .

(b) (6) .

****** CONFIDENTIAL ******
******PRE-DECISIONAL DOCUMENT ******
****** SUMMARY SCORESHEET ******
****** FOR COMPUTING PROJECTED HRS SCORE ******

****** Do Not Cite or Quote ******

Site Name: South California Chemical

Region: Region 5

Scenario Name: Site Reassessment

City, County, State: City of Union / McHenry County, Illinois

Evaluator:

EPA ID#: ILD 059483081

Date: 08/25/2016

Lat/Long: 42:13:57,-88:32:9

Congressional District: 14

This Scoresheet is for: Other

Scenario Name: Site Reassessment

Description:

	S pathway	S^2 pathway
Ground Water Migration Pathway Score (S_{gw})	2.41	5.81
Surface Water Migration Pathway Score (S_{sw})	57.6	3317.76
Soil Exposure Pathway Score (S_s)	0.0	0.0
Air Migration Score (S_a)	0.0	0.0
$S^2_{gw} + S^2_{sw} + S^2_s + S^2_a$		3323.57
$(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		830.89
/ $(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		28.83

Pathways not assigned a score (explain):

TABLE 3-1 --GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Aquifer Evaluated: Groundwater			
Likelihood of Release to an Aquifer:			
1. Observed Release	550	0.0	
2. Potential to Release:			
2a. Containment	10	10.0	
2b. Net Precipitation	10	3.0	
2c. Depth to Aquifer	5	5.0	
2d. Travel Time	35	35.0	
2e. Potential to Release [lines 2a(2b + 2c + 2d)]	500	430.0	
3. Likelihood of Release (higher of lines 1 and 2e)	550		430.0
Waste Characteristics:			
4. Toxicity/Mobility	(a)	100.0	
5. Hazardous Waste Quantity	(a)	10.0	
6. Waste Characteristics	100		6.0
Targets:			
7. Nearest Well	(b)	20.0	
8. Population:			
8a. Level I Concentrations	(b)	0.0	
8b. Level II Concentrations	(b)	0.0	
8c. Potential Contamination	(b)	31.8	
8d. Population (lines 8a + 8b + 8c)	(b)	31.8	
9. Resources	5	5.0	
10. Wellhead Protection Area	20	20.0	
11. Targets (lines 7 + 8d + 9 + 10)	(b)		76.8
Ground Water Migration Score for an Aquifer:			
12. Aquifer Score [(lines 3 x 6 x 11)/82,5000][c]	100		2.41
Ground Water Migration Pathway Score:			
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)[c]	100		0.0

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 4-1 --SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Watershed Evaluated: Surface Water			
Drinking Water Threat			
Likelihood of Release:			
1. Observed Release	550	550.0	
2. Potential to Release by Overland Flow:			
2a. Containment	10	10.0	
2b. Runoff	10	1.0	
2c. Distance to Surface Water	5	3.0	
2d. Potential to Release by Overland Flow [lines 2a(2b + 2c)]	35	40.0	
3.Potential to Release by Flood:			
3a. Containment (Flood)	10	10.0	
3b. Flood Frequency	50	25.0	
3c. Potential to Release by Flood (lines 3a x 3b)	500	250.0	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	290.0	
5. Likelihood of Release (higher of lines 1 and 4)	550		550.0
Waste Characteristics:			
6. Toxicity/Persistence	(a)	10000.0	
7. Hazardous Waste Quantity	(a)	100.0	
8. Waste Characteristics	100		32.0
Targets:			
9. Nearest Intake	50	0.0	
10. Population:			
10a. Level I Concentrations	(b)	0.0	
10b. Level II Concentrations	(b)	0.0	
10c. Potential Contamination	(b)	0.0	
10d. Population (lines 10a + 10b + 10c)	(b)	0.0	
11. Resources	5	0.0	
12. Targets (lines 9 + 10d + 11)	(b)		0.0
Drinking Water Threat Score:			
13. Drinking Water Threat Score [(lines 5x8x12)/82,500, subject to a max of 100]	100		0.0
Human Food Chain Threat			
Likelihood of Release:			
14. Likelihood of Release (same value as line 5)	550		550.0
Waste Characteristics:			
15. Toxicity/Persistence/Bioaccumulation	(a)	5.0E8	
16. Hazardous Waste Quantity	(a)	100.0	
17. Waste Characteristics	1000		320.0
Targets:			
18. Food Chain Individual	50	0.0	
19. Population			
19a. Level I Concentration	(b)	0.0	
19b. Level II Concentration	(b)	0.0	
19c. Potential Human Food Chain Contamination	(b)	0.0	
19d. Population (lines 19a + 19b + 19c)	(b)	0.0	
20. Targets (lines 18 + 19d)	(b)		0.0
Human Food Chain Threat Score:			
21. Human Food Chain Threat Score [(lines 14x17x20)/82500, subject to max of 100]	100		0.0
Environmental Threat			
Likelihood of Release:			
22. Likelihood of Release (same value as line 5)	550		550.0
Waste Characteristics:			
23. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	5.0E8	
24. Hazardous Waste Quantity	(a)	100.0	
25. Waste Characteristics	1000		320.0

Targets:			
26. Sensitive Environments			
26a. Level I Concentrations	(b)	0.0	
26b. Level II Concentrations	(b)	25.0	
26c. Potential Contamination	(b)	2.0	
26d. Sensitive Environments (lines 26a + 26b + 26c)	(b)	27.0	
27. Targets (value from line 26d)	(b)		27.0
Environmental Threat Score:			
28. Environmental Threat Score [(lines 22x25x27)/82,500 subject to a max of 60]	60		57.6
Surface Water Overland/Flood Migration Component Score for a Watershed			
29. Watershed Score[c] (lines 13+21+28, subject to a max of 100}	100		57.60
Surface Water Overland/Flood Migration Component Score			
30. Component Score (S_{sw})[c] (highest score from line 29 for all watersheds evaluated)	100		57.60

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 4-25 --GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Watershed Evaluated: Surface Water			
Drinking Water Threat			
Likelihood of Release to an Aquifer:			
1. Observed Release	550	550.0	
2. Potential to Release:			
2a. Containment	10	10.0	
2b. Net Precipitation	10	3.0	
2c. Depth to Aquifer	5	1.0	
2d. Travel Time	35	1.0	
2e. Potential to Release [lines 2a(2b + 2c + 2d)]	500	50.0	
3. Likelihood of Release (higher of lines 1 and 2e)	550		550.0
Waste Characteristics:			
4. Toxicity/Mobility	(a)	100.0	
5. Hazardous Waste Quantity	(a)	100.0	
6. Waste Characteristics	100		10.0
Targets:			
7. Nearest Well	(b)	0.0	
8. Population:			
8a. Level I Concentrations	(b)	0.0	
8b. Level II Concentrations	(b)	0.0	
8c. Potential Contamination	(b)	0.0	
8d. Population (lines 8a + 8b + 8c)	(b)	0.0	
9. Resources	5	0.0	
10. Targets (lines 7 + 8d + 9)	(b)		0.0
Drinking Water Threat Score:			
11. Drinking Water Threat Score ([lines 3 x 6 x 10]/82,500, subject to max of 100)	100		0.0
Human Food Chain Threat			
Likelihood of Release:			
12. Likelihood of Release (same value as line 3)	550	550.0	
Waste Characteristics:			
13. Toxicity/Mobility/Persistence/Bioaccumulation	(a)	0.0	
14. Hazardous Waste Quantity	(a)	100.0	
15. Waste Characteristics	1000		0.0
Targets:			
16. Food Chain Individual	50	0.0	
17. Population			
17a. Level I Concentration	(b)	0.0	
17b. Level II Concentration	(b)	0.0	
17c. Potential Human Food Chain Contamination	(b)	0.0	
17d. Population (lines 17a + 17b + 17c)	(b)	0.0	
18. Targets (lines 16 + 17d)	(b)		0.0
Human Food Chain Threat Score:			
19. Human Food Chain Threat Score [(lines 12x15x18)/82,500,suject to max of 100]	100		0.0
Environmental Threat			
Likelihood of Release:			
20. Likelihood of Release (same value as line 3)	550		550.0
Waste Characteristics:			
21. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	500000.0	
22. Hazardous Waste Quantity	(a)	100.0	
23. Waste Characteristics	1000		56.0
Targets:			
24. Sensitive Environments			
24a. Level I Concentrations	(b)	0.0	
24b. Level II Concentrations	(b)	25.0	

24c. Potential Contamination	(b)	0.0	
24d. Sensitive Environments (lines 24a + 24b + 24c)	(b)	25.0	
25. Targets (value from line 24d)	(b)		25.0
Environmental Threat Score:			
26. Environmental Threat Score [(lines 20x23x25)/82,500 subject to a max of 60]	60		9.33
Ground Water to Surface Water Migration Component Score for a Watershed			
27. Watershed Score[c] (lines 11 + 19 + 28, subject to a max of 100)	100		9.33
28. Component Score (S_{gs})[c] (highest score from line 27 for all watersheds evaluated, subject to a max of 100)	100		9.33

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 5-1 --SOIL EXPOSURE PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Exposure:			
1. Likelihood of Exposure	550		550.0
Waste Characteristics:			
2. Toxicity	(a)	10000.0	
3. Hazardous Waste Quantity	(a)	10.0	
4. Waste Characteristics	100		18.0
Targets:			
5. Resident Individual	50	0.0	
6. Resident Population:			
6a. Level I Concentrations	(b)	0	
6b. Level II Concentrations	(b)		
6c. Population (lines 6a + 6b)	(b)		
7. Workers	15	0.0	
8. Resources	5	0.0	
9. Terrestrial Sensitive Environments	(c)		
10. Targets (lines 5 + 6c + 7 + 8 + 9)	(b)		0.0
Resident Population Threat Score			
11. Resident Population Threat Score (lines 1 x 4 x 10)	(b)		0.0
Nearby Population Threat			
Likelihood of Exposure:			
12. Attractiveness/Accessibility	100	5.0	
13. Area of Contamination	100	40.0	
14. Likelihood of Exposure	500		5.0
Waste Characteristics:			
15. Toxicity	(a)	10000.0	
16. Hazardous Waste Quantity	(a)	10.0	
17. Waste Characteristics	100		18.0
Targets:			
18. Nearby Individual	1	1.0	
19. Population Within 1 Mile	(b)	0.70000000000 00001	
20. Targets (lines 18 + 19)	(b)		1.7
Nearby Population Threat Score			
21. Nearby Population Threat (lines 14 x 17 x 20)	(b)		153.0
Soil Exposure Pathway Score:			
22. Pathway Score[d] (S_s), [lines (11+21)/82,500, subject to max of 100]	100		0.0

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited to a maximum of 60
[d] Do not round to nearest integer

TABLE 6-1 --AIR MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned
Likelihood of Release:		
1. Observed Release	550	
2. Potential to Release:		
2a. Gas Potential to Release	500	
2b. Particulate Potential to Release	500	
2c. Potential to Release (higher of lines 2a and 2b)	500	
3. Likelihood of Release (higher of lines 1 and 2c)	550	
Waste Characteristics:		
4. Toxicity/Mobility	(a)	
5. Hazardous Waste Quantity	(a)	
6. Waste Characteristics	100	
Targets:		
7. Nearest Individual	50	
8. Population:		
8a. Level I Concentrations	(b)	
8b. Level II Concentrations	(b)	
8c. Potential Contamination	(c)	
8d. Population (lines 8a + 8b + 8c)	(b)	
9. Resources	5	
10. Sensitive Environments:		
10a. Actual Contamination	(c)	
10b. Potential Contamination	(c)	
10c. Sensitive Environments (lines 10a + 10b)	(c)	
11. Targets (lines 7 + 8d + 9 + 10c)	(b)	
Air Migration Pathway Score:		
12. Pathway Score (S_a) [(lines 3 x 6 x 11)/82,500][d]	100	

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
[d] Do not round to nearest integer

SCRATCH PAD NOTES:

PATHWAY/SOURCES: AIR

PATHWAY/SOURCES: AREA OF CONTAMINATION (AOC) INFORMATION

PATHWAY/SOURCES: GROUND WATER

Scoresheet Line#: 8c
Notes: 164+102+52 =318 based on populations in SE19
Documentation:

PATHWAY/SOURCES: GROUND WATER TO SURFACE WATER – DRINKING WATER

PATHWAY/SOURCES: GROUND WATER TO SURFACE WATER – ENVIRONMENTAL

PATHWAY/SOURCES: GROUND WATER TO SURFACE WATER – HUMAN FOOD CHAIN

PATHWAY/SOURCES: SOIL EXPOSURE – RESIDENTIOAL POPULATION THREAT

PATHWAY/SOURCES: SOIL EXPOSURE – NEARBY POPULATION THREAT

Scoresheet Line#: 19
Notes: 0-1/4 mile = 103, 1/4-1/2 =276, 1/2-1mile =257
Documentation:

PATHWAY/SOURCES: SITE SCENARIO INFORMATION

PATHWAY/SOURCES: SOURCES

Scoresheet Line#: Step 2
Notes: Parcel 3 is 4.5 acres or 196,020 ft2 in total.
Documentation:

Scoresheet Line#: Step 3
Notes: Copper was the main chemical used at the site, but benzo(a)pyrene and lead were found to exceed RMLs
Documentation:

PATHWAY/SOURCES: SURFACE WATER OVERLAND - DRINKING WATER

PATHWAY/SOURCES: SURFACE WATER OVERLAND – ENVIRONMENTAL

PATHWAY/SOURCES: SURFACE WATER OVERLAND - HUMAN FOOD CHAIN